small detached bergs; S. S. "Toronto," N. 51° 53′, W. 55° 00′, a large berg; several small ones in the Straits of Belle Isle.

19th.—S. S. "Concordia," near Belle Isle Light, a large berg, apparently aground.

22d.—S. S. "Colima," off Cape Norman, a small berg; S. S. "Wandrahm," south of Belle Isle, fractures of bergs and lumps; east of Belle Isle, a large berg.

24th.—S. S. "Siberian," Belle Isle Light, a large berg; S. S. "Sarnia," off Belle Isle, a medium berg.

25th.—S. S. "Lake Winnipeg," off Belle Isle Light, a large berg.

No icebergs were reported save in the Straits of Belle Isle and off the extreme northern coast of Newfoundland, where their presence was noted on fourteen days.

In July, 1888, several icebergs were observed off the southeast coast of Newfoundland, and numerous icebergs and large quantities of field ice were encountered in and to the eastward of the Straits of Belle Isle.

In August, 1887, the aggregate quantity of ice reported over the Banks of Newfoundland was largely in excess of the average for the month, while in the vicinity of Belle Isle it was deficient.

The August ice reports for the last six years show that the average southern limit of Arctic ice is in about N. 44° 45′, and the average eastern limit in about W. 44° 10′, and that during this month bergs are commonly observed in the Straits of Belle Isle. The entire absence of icebergs over the Banks of Newfoundland during August, 1888, was, therefore, an unusual feature.

The following table shows the southern and eastern limits of the region within which ice was reported for August during the last seven years:

Southern limit.			Eastern limit.		
Month.	Lat. N.	Long. W.	Month.	Lat. N.	Long. W.
	° ′	° ′		° ′	° ′
August, 1882	46 50	46 00	August, 1882	46 50	46 00
August, 1883	43 26	51 41	August, 1883	48 00	44 00
August, 1884	43 24	48 44	August, 1884	47 50	43 50
August, 1885	43 48	52 04	August, 1885	48 03	42 45
August, 1886	48 35	48 46	August, 1886	50 00	48 00
August, 1887	42 21	49 51	August, 1887	48 06	40 00
August, 1888	Straits of Belle Isle		August, 1888	51 53	55 00

FOG.

Fog was reported at Saint John's, N. F., on the 10th, 15th, 18th, and 29th.

The limits of fog-belts to the westward of the fortieth meridian are shown on chart i by dotted shading. In the vicinity of Newfoundland fog was reported on twenty-six days, as compared with twenty-eight days for July, 1888, and eighteen days for August, 1887. To the westward of the sixtieth meridian fog was reported for a total of nine days, as compared with thirteen days for the preceding month, and eleven days for August, 1887.

As compared with the charted fog-belts for July, 1888, the southern limit of the Newfoundland areas has contracted about one degree, while off the American coast fog was more frequently encountered along and to the southward of the fortieth parallel.

With the exception of the 12th and 13th, when variable winds and high barometric pressure prevailed over the Grand Banks, the development of fog to the eastward of the sixtieth meridian attended the circulation of winds in the southeast quadrant of areas of low barometric pressure which advanced eastward from the American continent north of the fortieth parallel. To the westward of the sixtieth meridian fog was generally reported following the passage of cyclonic areas to the eastward.

The following are the limits of fog-areas on the north Atlantic Ocean during August, 1888, as reported by shipmasters:

Date.	Vessel.	Entered.			Cleared.		
		Lat. N.	Lon. W.	Time.	Lat. N.	Lon. W.	Time.
		° ′	° ′		° ′	° ′	
1	S. S. Italy	40 40	66 30	.....	40 40	66 45	
1-2	Bk. Valona	46 15	51 00	.....	46 25	51 18	
5-6	S. S. City of Chester	40 33	71 30	1.30 a. m.	41 56	62 40	9 a. m.
5	Buffalo	42 30	64 54	8 a. m.	42 14	69 15	Midnight.
6	Sarnia	52 38	53 01	.....	52 57	51 55	
7	Manhattan	Quarantine, New York.					
7	City of Chicago	43 53	57 33	3.15 a. m.	45 36	51 44	11 p. m
8	Nova Scotian	46 17	53 40	10 a. m.	46 32	52 59	3.30 p. m.
8	Ailsa	36 17	74 51	2 a. m.	36 55	74 00	8 a. m.
8	Viola	42 12	51 26	1 a. m.	42 06	52 01	4 a. m.
9	Manitoban	44 36	53 05	midnight.	45 31	47 49	Midnight.
10	Lake Huron	Straits of Belle Isle.					
10	Ems	45 22	49 00	2.30 p. m.	44 49	51 00	8 p. m.
10	Helvetia	40 43	66 53	9 a. m.	40 41	68 06	2.40 p. m.
10-11	Lake Superior	At Point Amour.					
10-11	Serapis	45 33	58 34	4.30 p. m.	46 27	60 00	6.30 a. m.
11	Westernland	43 08	50 55	4 p. m.	43 57	48 25	1 a. m.
12	Thingvalla	49 22	48 24	0.15 a. m.	48 43	49 18	8.17 a. m.
13	State of Nevada	43 48	56 38	8.10 a. m.	43 14	58 37	3.55 p. m.
13	Leerdam	46 47	45 05	7.30 a. m.	46 17	46 54	2 p. m.
14	City of Berlin	44 24	53 30	10.30 p. m.	44 06	54 28	1.30 a. m.
15	Egyptian Monarch	42 59	48 32	.....	42 08	51 16	
16-17	Republic	43 23	58 50	.....	41 51	64 41	
16-17	Main	45 05	47 50	11.49 p.m.	45 03	48 10	1.28 a. m.
17	Germanic	41 50	62 16	2 a. m.	43 21	56 43	7.30 p. m.
18	British King	41 14	66 30	0.30 p. m.	40 30	67 00	4.30 p. m.
18-19	Fulda	45 00	54 00	noon.	43 30	60 00	6 a. m.
19-20	Belgenland	46 17	49 17	9.20 a. m.	43 50	57 28	3.50 p. m.
20	Gallia	43 32	48 23	11 a. m.	42 51	50 55	8 p. m.
23	Phœnician	42 39	65 15	.....	42 38	65 25	
23-24	Siberian	53 00	50 00	.....	51 30	55 45	
24	Samaria	43 40	48 47	.....	43 15	49 55	
25-26	Nevada	48 22	51 43	10.30 a. m.	44 49	57 02	Noon.
26	Amsterdam	47 26	43 45	7 a. m.	45 21	50 35	10 a. m.
26-27	Samaria	42 37	65 56	.....	42 30	67 15	
27	Elbe	42 25	62 05	4 a. m.	42 15	62 45	5.30 p. m.
27	Celtic	48 16	43 12	.....	47 59	44 23	
28	Island	45 04	52 02	1.30 a. m.	44 22	54 11	
29	City of Chicago	46 16	47 24	2.50 a. m.	45 44	49 13	8.50 a. m.
30	Donau	46 40	44 20	7 a. m.	46 19	46 14	3 p. m.
31	Venetian	47 03	42 56	7 p. m.	46 52	43 32	10 p. m.
31	Mareca	46 00	55 28	9 a. m.	45 42	56 40	2.30 p. m.

TEMPERATURE OF THE AIR (expressed in degrees, Fahrenheit).

The distribution of mean temperature over the United States and Canada for August, 1888, is exhibited on chart ii by the dotted isothermal lines. In the table of miscellaneous data are given the monthly mean temperatures, with the departures from the normal, for the various stations of the Signal Service. The figures opposite the names of the geographical districts in the columns for mean temperature, precipitation, and departures from the normal show, respectively, the averages for the several districts. The normal for any district may be found by adding the departure to the current mean when the departure is below the normal and subtracting when above.

August, 1888, was warmer than usual in the region to the northward of Montana, in the northern and middle plateau districts, and thence westward to the Pacific Ocean, and also in the lower portions of the southern slope and southern plateau. Along the Atlantic coast from Connecticut to South Carolina the temperature was about normal, and in all other districts the month was colder than the average August, the region over which temperature was below the normal embracing the greater part of the country. The greatest excess of temperature occurred on the Pacific coast northward of the thirty-eighth parallel, and in British Northwest Territory northward of Montana, in which districts the mean temperatures generally ranged from 4° to 6° above the normal; the greatest deficiency occurred in the Missouri, upper Mississippi, and lower Ohio valleys, and in the Canadian Maritime Provinecs, the departures generally ranging from 3° to 4°.

The following are some of the most marked departures from normal temperatures at Signal Service stations:

Above normal.		Below normal.	
	°		°
Walla Walla, Wash	7.0	Quebec, Quebec	5.0
Astoria, Oreg	6.2	Denver, Colo	4.6
Swift Current, N. W. T	6.0	Springfield, Ill	4.2
Portland, Oreg	5.0	La Crosse, Wis	4.0
Medicine Hat, N. W. T	5.0	Father Point, Quebec	4.0
Sacramento, Cal	4.4	Sidney, N. S	4.0
Roseburg, Oreg	4.2	North Platte, Nebr	3.8
Red Bluff, Cal	3.7	Saint Louis, Mo	3.8

The absolute extremes of temperature within the United States were: maximum, 116°, at Fort McDowell, Ariz., on the 11th; minimum, 30°, at Saint Vincent, Minn., on the 17th; range for the entire country, 86°.

The maximum temperatures of August in past years were equalled during August, 1888, at a few stations over the middle and southern portions of the eastern Rocky Mountain slope, and on the southern New England coast. At Fort Elliott, Tex., the maximum, 104°, which occurred on the 5th, was 3° higher than any previous maximum for August.

The minimum temperatures of August, 1888, were nowhere lower than have been observed during August in former years. They were, however, within from 1° to 3° of the lowest on record at several stations in the Ohio Valley, the lower lake region, New England, and middle Atlantic states, and at a few stations in the south Atlantic and east Gulf states, extreme northwest, and over the middle slope of the Rocky Mountains.

RANGES OF TEMPERATURE.

The monthly and the greatest and least daily ranges of temperature at Signal Service stations are given in the table of miscellaneous meteorological data. The monthly ranges were greatest in the extreme northwest, where they exceeded 60°; they were, as usual, least along the Gulf and north Pacific coasts, where they fell to 20°, or below, at some stations.

The following are some of the extreme monthly ranges:

Greatest.		Least.	
	°		°
Saint Vincent, Minn	65.9	Jupiter, Fla	18.2
Moorhead, Minn	61.8	Fort Canby, Wash	18.3
Bismarck, Dak	61.6	Cedar Keys, Fla	19.9
Fort Buford, Dak	60.2	Key West, Fla	20.0
Poplar River, Mont	60.0	Port Eads, La	20.0
Fort Totten, Dak	59.4	Corpus Christi, Tex	20.0

FROST.

Frosts occurred during August on the following dates:

1st, Carson City, Nev.; Fort Klamath, Oregon. 2d, Watseka, Kans.; Carson City, Nev. 5th, Fort Klamath, Oregon. 7th, Moorhead, Minn. 8th, Pike's Peak, Colo.; Hay Springs, Nebr. 9th, Fort Totten, Grand Forks, and Gallatin, Dak.; Independence, Iowa; Medford, and Saint Vincent, Minn.; Fort Maginnis, Mont. 10th, Lansing and Lathrop, Mich.; Saint Vincent, Minn. 11th and 12th, Colorado Springs, Colo. 13th, Sycamore, Ill.; Fort Klamath, Oregon. 14th, Port Huron, Mich.; Fort Klamath, Oregon, Wellsborough, Pa. 15th, Fort Maginnis, Mont. 17th, Bismarck, Davenport, Fort Buford, Fort Totten, Gallatin, and Grand Forks, Dak.; Marquette, Mich.; Moorhead and Saint Vincent, Minn. 18th, West Branch, Mich.; Moorhead, Minn. 21st, Lansing, Mich. 22d, Pike's Peak, Colo.; Sycamore and Windsor, Ill.; Lansing, Marquette, Mount Pleasant, Ovid, and Petersburg, Mich.; Wellsborough, Pa.; Cedar Springs, S. C. (on lowlands); Deuster, Embarras, and Waucousta, Wis. 23d, Beason, Hennepin, Philo, and Sycamore, Ill.; Angola, Delphi, Lafayette, and La Grange, Ind.; Taunton, Mass.; Adrian, Alma, Bell Branch, Benton Harbor, Berlin, Bronson, Buchanan, Detroit, Grand Haven, Ionia, Lathrop, Lansing, Long Lake, Petersburg, Saint John's, Thornville, and West Branch, Mich.; Auburn and Savona, N. Y.; Lenoir, N. C.; Garrettsville, Lordstown, and Wauseon, Ohio; Erie, Corry, Dyberry, Meadville, and Wellsborough, Pa. 24th, Thornville and Detroit, Mich.; Lenoir, N. C. 26th, Pike's Peak, Colo. 27th, Bell Branch and Saint John's, Mich.; Eden Centre, N. Y.; Wellsborough, Pa. 28th, Alma, Arbela, Bad Axe, Berlin, Bronson, Coldwater, Detroit, Fletcher, Grand Haven, Hanover, Ionia, Lathrop, Lansing, Mio, Omer, Petersburg, Vienna, and West Branch, Mich.; Oswego, N. Y.; Garrettsville, Lordstown, and Wauseon, Ohio; Erie, Corry, Dyberry, and Wellsborough, Pa.; Embarras, Wis. 29th, Garrettsville, Ohio; Dyberry and Quakertown, Pa. 30th, Pike's Peak, Colo.; Hart, Mich.; Fort Maginnis, Mont.; Wytheville, Va.; Embarras, Wis. 31st, Georgetown, Colo.; Marquette and Noble, Mich.; Saint Vincent and Spring Valley, Minn.

The following are reports of injury to vegetation by frosts during the month:

Fort Totten, Dak.: frost on the 17th injured oats and wheat in the surrounding country.

Moorhead, Minn.: frost on the 17th caused considerable damage near this place.

Erie, Pa.: corn and other crops were injured by frost on the 28th.

Birmingham, Oakland Co., Mich.: frost was quite heavy on the night of the 27th, doing considerable injury to buckwheat and potatoes.

Table of comparative maximum and minimum temperatures for August.

State or Territory.	Stations.	For 1888.		Since establishment of station.				Length of record.
		Max.	Min.	Max.	Year.	Min.	Year.	
		°	°	°		°		Yrs.
Alabama	Mobile	93.2	69.5	100.0	1874	63.0	1884	18
Do	Montgomery	97.2	61.6	103.0	1874	59.1	1887	16
Arizona	Prescott	94.0	48.0	99.0	1878	38.0	1876	13
Do	Fort Apache	.....	.....	98.1	1885	41.0	1880	10
Arkansas	Fort Smith	100.0	64.0	104.5	1886	57.1	1885, 86, 87	7
Do	Little Rock	97.0	62.7	102.0	1881	59.2	1887	10
California	San Francisco	85.1	50.8	89.0	1879	48.4	1886	18
Do	San Diego	82.0	57.0	91.5	1884	54.0	1879, 1884	17
Colorado	Denver	92.3	49.2	105.0	1878	44.0	1876	17
Do	Montrose	92.8	46.4	97.5	1885	41.8	1887	4
Connecticut	New Haven	90.8	49.8	90.0	1876, 81, 84	45.1	1885	16
Do	New London	88.0	54.0	90.0	1873	47.5	1884	17
Dakota	Fort Buford	96.5	36.3	107.0	1882	34.5	1886	10
Do	Yankton	96.6	44.5	103.0	1873	40.7	1886	16
Dis. of Columbia	Washington City	97.2	51.5	101.0	1881	50.0	1874	18
Florida	Jacksonville	96.0	67.2	100.0	1874	64.9	1886	17
Do	Key West	91.0	88.2	100.0	1886	72.0	1882, 1884	18
Georgia	Atlanta	95.7	61.5	96.2	1881	54.6	1887	10
Do	Savannah	97.1	64.3	100.0	1878	63.0	1879	18
Idaho	Boisé City	102.6	46.8	105.0	1883	39.0	1881	12
Illinois	Cairo	97.0	58.0	103.0	1881	54.5	1885	17
Do	Chicago	91.0	50.9	98.0	1874	49.1	1887	17
Indiana	Indianapolis	97.5	48.9	101.0	1881	47.7	1885	16
Indian Ter	Fort Sill	105.0	60.0	105.0	1881	53.0	1880	12
Iowa	Dubuque	96.0	47.5	99.1	1887	41.0	1875	10
Do	Des Moines	96.6	46.0	103.0	1881	45.6	1887	16
Kansas	Dodge City	103.5	51.8	101.8	1887	50.0	1880	13
Do	Leavenworth	96.6	52.8	107.0	1874	48.0	1887	18
Kentucky	Louisville	98.5	53.5	104.6	1881	52.4	1885	16
Louisiana	New Orleans	93.7	69.5	96.5	1877	65.5	1884	18
Do	Shreveport	97.3	69.0	105.0	1881	58.0	1880	16
Maine	Eastport	79.0	47.2	88.0	1880	45.0	1880	16
Do	Portland	85.2	48.5	95.0	1876	47.5	1887	17
Maryland	Baltimore	95.8	55.0	98.0	1881	52.0	1874	16
Massachusetts	Boston	88.2	52.0	96.8	1881	47.0	1880	18
Michigan	Marquette	93.5	42.5	97.7	1886	38.0	1886	15
Do	Grand Haven	80.2	46.0	92.0	1881	42.5	1875	16
Minnesota	Saint Vincent	96.3	30.4	103.2	1886	27.4	1885	8
Do	Saint Paul	94.0	46.3	98.0	1880	41.1	1887	16
Mississippi	Vicksburg	96.7	67.6	100.0	1878	61.8	1885	16
Missouri	Saint Louis	97.0	56.0	106.4	1881	52.1	1887	18
Montana	Ft. Assinaboine	96.0	42.8	98.0	1872	37.0	1881	9
Do	Helena	92.8	42.5	95.1	1886	34.0	1880	9
Nebraska	North Platte	97.5	44.0	103.0	1878	42.0	1876	14
Do	Omaha	99.2	52.9	105.0	1874	46.3	1886	16
Nevada	Winnemucca	95.6	45.0	102.5	1882	20.0	1887	10
New Jersey	Atlantic City	87.8	51.4	91.8	1881	48.8	1885	15
New Mexico	Santa Fé	90.0	40.5	97.0	1878	40.0	1882	15
New York	Buffalo	85.0	49.5	94.2	1887	44.0	1880	16
Do	New York City	96.3	53.2	96.0	1881	51.0	1885	17
North Carolina	Charlotte	.....	.....	100.5	1881	52.8	1887	10
Do	Wilmington	95.2	58.8	99.0	1878	55.6	1887	18
Ohio	Cincinnati	97.4	52.3	101.0	1881	50.9	1885	18
Do	Sandusky	95.2	48.8	98.0	1881	48.5	1882	12
Oregon	Portland	92.3	52.0	94.5	1885	53.0	1876	16
Do	Roseburg	92.4	47.0	97.2	1884	40.5	1882	11
Pennsylvania	Pittsburg	93.2	48.3	99.8	1881	45.8	1887	16
Do	Philadelphia	97.8	54.0	99.0	1881	51.1	1885	18
Rhode Island	Block Island	81.0	55.4	82.5	1887	49.3	1887	8
South Carolina	Charleston	96.5	67.0	97.9	1887	62.0	1879	16
Tennessee	Knoxville	96.0	53.3	100.0	1881	50.0	1879	18
Do	Memphis	98.9	60.5	102.0	1881	58.6	1887	16
Texas	Brownsville	97.2	73.0	101.0	1883	68.0	1884	12
Do	Fort Elliott	104.1	57.0	101.0	1881	48.0	1880, 1882	9
Utah	Salt Lake City	98.2	54.0	101.0	1875	44.0	1880	15
Virginia	Lynchburg	98.5	53.0	100.0	1881	49.8	1887	16
Do	Norfolk	98.4	56.0	99.0	1881	58.0	1874	18
Washington	Spokane Falls	101.8	47.5	101.5	1882	38.0	1881, 1882	8
Do	Olympia	86.0	44.4	92.2	1885	40.1	1887	12
Wisconsin	La Crosse	91.3	49.9	96.0	1874, 81, 87	42.3	1887	16
Do	Milwaukee	89.9	48.7	98.0	1874	42.0	1875	18
Wyoming	Cheyenne	85.5	40.1	96.1	1882	34.0	1870	16

TEMPERATURE OF WATER.

The following table shows the temperature of the sea-water for August, 1888, observed, under conditions as given, at the harbors of the several stations; the monthly range of water temperature; the average depth at which the observations were made, and the mean temperature of the air:

Station.	Temperature at bottom.				Mean temperature of air at the station.
	Max.	Min.	Range.	Monthly mean.	
	°	°	°	°	°
Canby, Fort, Wash	67.7	61.0	6.7	64.0	58.7
Cedar Keys, Fla	92.0	83.0	9.0	86.7	80.9
Charleston, S. C	87.5	82.0	5.5	84.9	79.6
Eastport, Me	51.2	49.3	1.9	50.0	58.0
Galveston, Tex	89.c	83.5	5.5	86.4	81.9
New York City	75.0	69.1	5.9	72.8	71.6
Pensacola, Fla	86.5	80.0	6.5	83.4	80.0
Portland, Me	62.0	57.0	5.0	58.8	64.8
Portland, Oregon	74.5	70.0	4.5	72.6	69.0

COTTON REGION REPORTS.

In the accompanying table are given for August, 1888, the average rainfall and the means of the maximum and minimum temperatures in the cotton regions, together with normals computed from similar observations of former years:

Temperature and rainfall data for the cotton districts, August.

Districts.	Rainfall.			Temperature.							
				Maximum.			Minimum.			Extremes for Aug., 1888.	
	Average for Aug. of six preceding years.	Average for Aug., 1888.	Departures.	Mean for Aug. of six preceding years.	Mean for Aug., 1888.	Departures.	Mean for Aug. of six preceding years.	Mean for Aug., 1888.	Departures.	Max.	Min.
	Inches.	*Inches.*	*Inches.*	°	°	°	°	°	°	°	°
New Orleans	3.77	8.16	+ 4.39	91.5	90.4	— 1.1	71.2	71.6	+ 0.4	100	65
Savannah	5.53	5.19	— 0.34	91.0	91.9	+ 0.9	71.4	71.6	+ 0.2	104	58
Charleston	6.34	3.81	— 2.53	89.4	90.2	+ 0.8	69.3	70.1	+ 0.8	100	50
Atlanta	5.00	5.93	+ 0.93	87.9	89.4	+ 1.5	67.8	68.8	+ 1.0	101	51
Wilmington	5.65	3.50	— 2.15	87.8	90.3	+ 2.5	67.6	68.8	+ 1.2	103	48
Memphis	2.75	9.03	+ 6.28	89.1	88.8	— 0.3	66.6	68.3	+ 1.7	103	57
Galveston	2.65	6.72	+ 2.95	93.9	92.5	— 1.4	71.2	73.5	+ 2.3	103	59
Vicksburg	3.06	7.33	+ 4.27	90.7	90.2	— 0.5	70.1	71.6	+ 1.5	98	56
Montgomery	3.43	7.60	+ 4.17	90.3	89.9	— 0.4	68.8	69.5	+ 0.7	99	52
Augusta	4.20	4.15	— 0.05	89.6	91.2	+ 1.6	68.3	69.8	+ 1.5	102	53
Little Rock	2.33	4.76	+ 2.43	91.1	91.1	0.0	66.4	71.6	+ 5.2	103	53
Mobile	3.02	8.91	+ 5.89	92.1	90.3	— 1.8	69.9	71.1	+ 1.2	103	57

The rainfall was about normal in the districts of Savannah and Augusta; in Charleston and Wilmington districts marked deficiencies occurred; and, with the exception of Atlanta, there were very large excesses in all other districts, the rainfall being more than double the average in the districts of New Orleans and Little Rock, and three times the average in those of Vicksburg, Montgomery, and Mobile.

The means of the maximum temperatures were for the most part about the average, and the means of the minimum temperatures were above the average in all districts.

DEVIATIONS FROM NORMAL TEMPERATURES.

The following table shows for certain stations, as reported by voluntary observers, (1) the normal temperatures for a series of years; (2) the length of record during which the observations have been taken, and from which the normal has been computed; (3) the mean temperature for August, 1888; (4) the departures of the current month from the normal; (5) and the extreme monthly means for August during the period of observations and the year of occurrence:

State and Station.	County.	(1) Normal for the month of Aug.	(2) Length of record.	(3) Mean for Aug., 1888.	(4) Departure from normal.	(5) Extreme monthly mean temperature for August.			
						Highest.		Lowest.	
						Am't.	Year.	Am't.	Year.
Arkansas.		°	*Years*	°	°	°		°	
Lead Hill	Boone	77.6	6	79.2	+1.6	81.0	1886	75.5	1882
California.									
Sacramento	Sacramento	71.0	22	74.4	+3.4	75.0	1875	66.2	1887
Connecticut									
Southington	Hartford	69.0	19	69.8	+0.8	72.8	1872	.....	.....
Florida.									
Merritt's Island	Brevard	80.6	5	81.5	+0.9	81.5	1888	79.9	1886
Illinois.									
Golconda	Pope	77.8	11	76.7	—1.1	.....	.....	.....	.....
Peoria	Peoria	75.3	32	72.9	—2.4	80.5	1881	69.9	1886
Riley	McHenry	68.6	27	66.1	—2.5	.....	.....	.....	.....
Indiana.									
Logansport	Cass	73.7	34	74.4	+0.7	78.2	1881	66.6	1866
Vevay	Switzerland	75.9	21	74.1	—1.8	.....	.....	.....	.....
Iowa.									
Monticello	Jones	70.2	35	69.5	—0.7	.....	.....	.....	.....
Independence	Buchanan	70.0	13	69.0	—1.0	75.0	1878	66.0	1885
Kansas.									
Lawrence	Douglas	75.4	21	72.9	—2.5	82.8	1874	71.1	1884
Wellington	Sumner	76.7	10	79.1	+2.4	82.7	1881	70.1	1884
Independence	Montgomery	78.3	17	76.5	—1.8	85.3	1881	73.4	1885
Louisiana.									
Point Pleasant	Tensas	81.5	10	79.2	—2.3	.....	.....	.....	.....
Grand Coteau	St. Landry	81.8	6	79.9	—1.9	.....	.....	.....	.....
Maine.									
Gardiner	Kennebec	66.5	52	64.1	—2.4	71.5	1840	63.0	1866
Cornish	York	68.4	31	65.8	—2.6	73.9	1876	62.4	1866
Maryland.									1875
Cumberland	Alleghany	71.1	17	69.2	—1.9	76.0	1872–73	69.0	1879
Massachusetts.									1882
Somerset	Bristol	72.1	18	72.0	—0.1	.....	.....	.....	.....
Newburyport	Essex	67.1	10	67.2	+0.1	69.5	1882	65.4	1887
Michigan.									
Adrian	Lenawee	68.4	11	69.8	+1.4	.....	.....	.....	.....
Thornville	Lapeer	70.1	12	68.3	—1.8	.....	.....	.....	.....
Kalamazoo	Kalamazoo	69.5	13	69.3	—0.2	.....	.....	.....	.....
Nevada.									
Carson City	Ormsby	69.0	9	69.4	+0.4	.....	.....	.....	.....
New York.									
Humphrey	Cattaraugas	64.3	6	66.2	+1.9	66.2	1888	62.3	1886
Factoryville	Tioga	66.1	7	67.2	+1.1	67.8	1882	64.0	1883
Palermo	Oswego	67.0	35	65.4	—1.6	71.6	1877	62.1	1866
Ohio.									
Wauseon	Fulton	70.3	18	69.9	—0.4	72.8	1872	63.0	1870
Oregon.									
Albany	Linn	66.0	10	68.7	+2.7	68.7	1879 '88	63.2	1880
Eola	Polk	64.8	18	62.9	—1.9	.....	.....	.....	.....
Pennsylvania.									
Dyberry	Wayne	65.1	21	63.9	—1.2	71.7	1878	59.2	1866
Grampian Hills	Clearfield	67.7	25	67.6	—0.1	73.1	1881	62.1	1866
Wellsborough	Tioga	67.7	10	65.5	—2.2	71.3	1881	63.0	1883
South Carolina.									
Stateburg	Sumter	77.4	8	77.1	—0.3	79.7	1881	75.6	1887
Tennessee.									
Milan	Gibson	76.0	6	76.6	+0.6	90.0	1886–87	62.0	1884
Texas.									
New Ulm	Austin	82.5	17	81.3	—1.2	84.4	1873	79.4	1882
Vermont.									
Strafford	Orange	67.7	14	66.4	—1.3	70.6	1876	63.9	1885
Virginia.									
Bird's Nest	Northampt'n	77.0	19	77.4	+0.4	80.1	1878	72.0	1874
Wytheville	Wythe	70.5	23	74.3	+3.7	74.3	1888	66.1	1883
West Virginia.									
Helvetia	Randolph	67.0	12	67.8	+0.8	.....	.....	.....	.....

PRECIPITATION (expressed in inches and hundredths).

The distribution of precipitation over the United States and Canada for August, 1888, as determined from the reports of about one thousand stations, is exhibited on chart iv. In the table of miscellaneous meteorological data are given, for each Signal Service station, the total precipitation, with the departures from the normal. The figures opposite the names of the geographical districts in columns for mean temperature, precipitation, and departures from the normal, show respectively the averages for the several districts. The normal for any district may be found by adding the departure to the current mean when the precipitation is below the normal; and subtracting when above.

In the lower lake region, New England, and the middle Rocky Mountain slopes the rainfall of August, 1888, averaged about 95 per cent. of the normal, and in the middle Atlantic states there was a slight excess, amounting to about 7 per cent. of the normal. In all other districts the departures from normal were more decided, and in some districts they were remarkably large. The most important feature of the month's rainfall was the very large excess in the Gulf States, Ohio and Missouri valleys, and southern Rocky Mountain slope. In the